Date: Fri, 25 Jun 93 16:05:27 PDT
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>
Errors-To: Info-Hams-Errors@UCSD.Edu
Reply-To: Info-Hams@UCSD.Edu
Precedence: Bulk
Subject: Info-Hams Digest V93 #781
To: Info-Hams

Info-Hams Digest Fri, 25 Jun 93 Volume 93 : Issue 781

Today's Topics:

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Fri, 25 Jun 1993 15:51:23 GMT
From: usc!howland.reston.ans.net!noc.near.net!squam.banyan.com!banyan.com!
dts@network.UCSD.EDU
Subject: [ANS] Wanted: Simple,Cheap,2m antenna project
To: info-hams@ucsd.edu

In article <1993Jun24.131037.5891@ke4zv.uucp>, gary@ke4zv.uucp (Gary Coffman)
writes:
|> In article <1637@arrl.org> zlau@arrl.org (Zack Lau) writes:
|> >
|> >Keep in mind that losses in loaded HF verticals can be quite

|> >high, regardless of what material is used for the coil form.
|> >The PVC may melt even if it contributed no additional losses,
|> >simply because it is surrounded by hot wire. Anyone actually
|> >measure the additional losses caused by PVC?
|>
|> PVC is somewhat more lossy than some other plastics. One test
|> I've seen is to try it in the microwave oven. PVC melts, microwave
|> safe plastic dishes don't. However, either will melt on a stove.
|> So the difference is at least partially due to the difference in
|> RF absorption. I'd imagine it's frequency dependent to a degree.
|> I use PVC as standoffs for a gamma rod that matches my tower on
|> 160 meters. It hasn't melted at legal limit power.

I use PVC and ABS (black) plastic at 80 Meter wavelengths. Some folks suggested using the microwave as a test to see if the material was going to conduct RF. The problem is that while ABS is somewhat conductive at 2GHz, it seems to be a good insulator at 3.6 MHz. The ABS is black, and the black coloring may well add to conductivity. Certainly has not had any trouble in my loading coils on 75 and 80M half-length dipoles.

|>
|> Gary
|> --
|> Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
|> Destructive Testing Systems | we break it. | uunet!rsiatl!ke4zv!gary
|> 534 Shannon Way | Guaranteed! | emory!kd4nc!ke4zv!gary
|> Lawrenceville, GA 30244 | |

--

Daniel Senie   Internet: dts@banyan.com
Banyan Systems, Inc.   Compuserve: 74176,1347
508-898-1188   Packet Radio: N1JEB@WA1PHY.MA

Date: Fri, 25 Jun 1993 20:15:52 GMT
From: pravda.sdsc.edu!news.cerf.net!usc!sdd.hp.com!col.hp.com!news.dtc.hp.com!
srgenprp!alanb@network.UCSD.EDU
Subject: [ANS] Wanted: Simple,Cheap,2m antenna project
To: info-hams@ucsd.edu

Daniel Senie (dts@banyan.com) wrote:

: I use PVC and ABS (black) plastic at 80 Meter wavelengths. Some folks suggested
: using the microwave as a test to see if the material was going to conduct RF.
The
: problem is that while ABS is somewhat conductive at 2GHz, it seems to be a good

: insulator at 3.6 MHz. The ABS is black, and the black coloring may well add to
: conductivity. Certainly has not had any trouble in my loading coils on 75 and
80M
: half-length dipoles.

The loss is not caused by conductivity. Even a perfect insulator
can be lossy at RF frequencies.

AL N1AL

Date: Fri, 25 Jun 1993 20:13:29 GMT
From: dog.ee.lbl.gov!overload.lbl.gov!agate!howland.reston.ans.net!math.ohio-
state.edu!sdd.hp.com!col.hp.com!news.dtc.hp.com!srgenprp!alanb@network.UCSD.EDU
Subject: [ANS] Wanted: Simple,Cheap,2m antenna project
To: info-hams@ucsd.edu

Zack Lau (zlau@arrl.org) wrote:
: In rec.radio.amateur.misc, gary@ke4zv.uucp (Gary Coffman) writes:
: >In article <1637@arrl.org> zlau@arrl.org (Zack Lau) writes:
: >>
: >>Keep in mind that losses in loaded HF verticals can be quite
: >>high, regardless of what material is used for the coil form.
: >>The PVC may melt even if it contributed no additional losses,
: >>simply because it is surrounded by hot wire. Anyone actually
: >>measure the additional losses caused by PVC?
: >
: >PVC is somewhat more lossy than some other plastics. One test

: It certainly is, I often use Teflon myself, to get lower losses.

Date: 25 Jun 93 13:13:03 -0600
From: pravda.sdsc.edu!news.cerf.net!usc!howland.reston.ans.net!darwin.sura.net!
cs.utk.edu!nntp.memst.edu!cse_test@network.UCSD.EDU
Subject: Amatuer Clubs In Huntsville, AL
To: info-hams@ucsd.edu

Does anyone know of any Amatuer Clubs in Huntsville, AL. I am going there
pretty soon and I want to join a club there. Please leave Email on them and how
I can get in contact with them to join.

Thanks
Greg (KD4TVF)

Date: Fri, 25 Jun 1993 18:32:11 GMT
From: sdd.hp.com!col.hp.com!news.dtc.hp.com!hpscit.sc.hp.com!icon.rose.hp.com!
greg@network.UCSD.EDU
Subject: copper tube J pole
To: info-hams@ucsd.edu

In article <1993Jun24.112601.24865@hemlock.cray.com> you wrote:
: Last night I put together Ed Humphries copper tube J pole for 2M. It
: worked wonderfully. I was really pleased.

David,

I, too, just built the Copper Pole. At first it worked absolutely wonderfully, but now I am finding that it seems very sensitive to how the feed line runs off from the antenna. Small changes in the position of the wire (not the feed point itself; how the wire hangs) make very large changes in the antenna's effectiveness. Apparently, my first positioning was just right. Now, of course, things have moved and I can't find the "sweet spot" again.

One change I made was to add a short (1 foot) section of 3/4" pipe to the bottom of the "excess" 1/2" pipe, in order to fit the mounting bracket. My first positioning of the antenna didn't have this, and I wonder if the length of that 34" piece is important.

How is your antenna mounted? Did you ground the mounting pipe? Is it mounted on something metal (a mast of some sort) or something non-conductive?

I understand that J-pole antennas are inherently prone to feed line radiation, and my guess is that this is what is happening. I've tried coiling up some of the feed line at the feed point to decouple the line, but that seemed to make things worse.

Other than that, I have found it to be a nice, inexpensive, easy to build antenna. I've been able to work the RS-10 satellite using it, so I know it can work in spite of my difficulties.

Thanks,

Greg KD6KGW

Date: Fri, 25 Jun 93 18:09:22 GMT
From: mentor.cc.purdue.edu!noose.ecn.purdue.edu!en.ecn.purdue.edu!n9ljx@purdue.edu
Subject: CT lookalike for FD
To: info-hams@ucsd.edu

In article <C96Dzw.BIH@cbnewsj.cb.att.com> k2ph@cbnewsj.cb.att.com (The QRPer) writes:
>From article <1993Jun25.055604.10057@en.ecn.purdue.edu>, by n9ljx@en.ecn.purdue.edu (Scott A Stembaugh):
>>
>>
>> There used to be a logging program for Fieldday that looked and worked like
>> CT. Does anybody remeber this and/or know where it can be found? I have
>> looked at wuarchive and oak.oakland with no luck. As you can guess, I am in
>> kinda of a hurry for it :).
>>
>> --scott
>> Scott Stembaugh - N9LJX   internet: n9ljx@ecn.purdue.edu
>
>You're almost right next door to WR9R, who wrote a CT lookalike
>for Field Day only. He's up to version 3.01 now. Program costs
>$10. Version 3.0 is on the ARRL BBS 203-666-0578, but I forget
>the filename. By the way, it's not a complete lookalike, but
>it's close. Being a much smaller program, for one contest only,
>it seems to run considerably faster than CT.
>
>Bob K2PH
>Bob Schreibmaier K2PH | UUCP: ...!att!mtdcr!bob

Thanks for the info, but that is not the one I am looking for. Altho in the documentation it does reference the one I want, NA by K8CC. So, Does anyone know where NA by K8CC can be found on internet? I couldn't find it in wuarchive.

Thanks,
--sas
--
Scott Stembaugh - N9LJX   internet: n9ljx@ecn.purdue.edu
Operations Supervisor, ADPC   phone: 317 494 7946
Purdue University
West Lafayette, IN 47907-1061

Date: 25 Jun 93 14:53:37
From: usc!howland.reston.ans.net!darwin.sura.net!news-feed-1.peachnet.edu!umn.edu!lynx.unm.edu!dns1.NMSU.Edu!opus!forozco@network.UCSD.EDU
Subject: CT lookalike for FD
To: info-hams@ucsd.edu

I don't remember where to get WR9R's logging program, but there's another one called "fielday.exe", which you can find in almost any ftp site with a "hamradio" directory, (if not, try freedom.nmsu.edu,

/incoming/other. it's not great, but I guess if you're in a hurry to
a fd program, it will work.

Luis
--

Luis F. Orozco   N 5 U H B
forozco@dante.nmsu.edu   g o o
forozco@freedom.nmsu.edu   l m y
                                      y e

Date: Fri, 25 Jun 1993 21:24:05 GMT
From: tandem!NewsWatcher!user@uunet.uu.net
Subject: Help;Adding Mostar Channels?
To: info-hams@ucsd.edu

Hi,
I have a Motorola Mostar 8 channel radio. I have successfully been able to reprogram the 8 channels to 2m. I would like to now add more than 8 channels.
The radio uses a 2804 EEprom (512 bytes), this radio does not use all the address lines (since each channel is 32 bytes, 8 * 32 = 256 bytes and the high address lines are brought to ground).

I added a binary switch and changed the prom to a 2716 (2k bytes, the pinouts are the same, the 2804 has some unused pins). I use the binary switch to do bank selecting in the 2716. Using this method I should be able to get 8 banks of 8 frequencies (each frequency uses 32 bytes). This should be totally transparent to the radio as I haven't changed any of the internals, just bent up the extra address lines on the 2716 and brought them to a binary switch. However nothing I've tried seems to work. I've even had a friend re-wire everything as he felt it had to work and figured I screwed it up! Well, it doesn't work for him either.

Has anyone done this? Is there some hidden feature of the 2804 that makes it not really compatible with the 2716? Or worse yet did Motorola anticipate this type of modification and do something to prevent it? Any and all help would be appreciated.

Thanks,
Michael, N6UGX

Michael Brooks   Internet:Brooks_Michael@Tandem.Com
Tandem Computers, Inc.

The opinions expressed are mine and not in any way related to
my employer.

Date: 25 Jun 93 12:41:35 EST
From: dog.ee.lbl.gov!overload.lbl.gov!agate!howland.reston.ans.net!usc!sdd.hp.com!
caen!malgudi.oar.net!uoft02.utoledo.edu!tulip!mohan@network.UCSD.EDU
Subject: How is Collins equipment ?
To: info-hams@ucsd.edu

Hello,

   I gave the Tech and Novice exams on June 12th and passed them. While I am
waiting for the license I want to look for equipment.

   I went to a Hamfest last week in Monroe, MI and there saw a couple of
Collins equipment. The "S" Line of transmitter and receiver.

   Can someone here give me some info regarding the following:

1. What is the difference of having a transceiver and separate transmitter and
receiver setup. Can you tell me the comparision of such setups.

2. Also what do you think about the Collins. The person selling the Collins
asked about $550 for the transmitter+Receiver+Powersupply. Is this ok price?

3. What are the popular Collins equipment ?

Please let me know what you think. :) Thank you.

--mohan
==
+ Mohanakrishna Pakkurti   + mohan@jupiter.cse.utoledo.edu   +
+ HOME: 2239 University Hills Blvd #204, Toledo OH 43606. Phone:(419)536-9073 +
==

Date: 25 Jun 93 20:15:45 GMT
From: news-mail-gateway@ucsd.edu
Subject: ORBS$177.2liners
To: info-hams@ucsd.edu

SB KEPS @ AMSAT $ORBS-177.N

2Line Orbital Elements 177.AMSAT

HR AMSAT ORBITAL ELEMENTS FOR AMATEUR SATELLITES IN NASA FORMAT
FROM N3FKV HEWITT, TX   June 26, 1993
BID: $ORBS-177.N

DECODE 2-LINE ELSETS WITH THE FOLLOWING KEY:
1 AAAAAU 00 0 0 BBBBB.BBBBBBBB .CCCCCCCC 00000-0 00000-0 0 DDDZ
2 AAAAA EEE.EEEE FFF.FFFF GGGGGGG HHH.HHHH III.IIII JJ.JJJJJJJJKKKKKZ
KEY: A-CATALOGNUM B-EPOCHTIME C-DECAY D-ELSETNUM E-INCLINATION F-RAAN
G-ECCENTRICITY H-ARGPERIGEE I-MNANOM J-MNMOTION K-ORBITNUM Z-CHECKSUM

TO ALL RADIO AMATEURS BT

AO-10
1 14129U 83 58 B 93172.99302659 -.00000132 00000-0 99999-4 0   38
2 14129 27.0628 19.5314 6022546 91.3829 333.9495 2.05882769 75368
UO-11
1 14781U 84 21 B 93174.01998396 .00000320 00000-0 58384-4 0 4212
2 14781 97.8083 200.1544 0012710 343.2499 16.8283 14.69012648497570
RS-10/11
1 18129U 87 54 A 93173.69733724 .00000088 00000-0 89554-4 0 6245
2 18129 82.9236 234.5356 0010773 309.5202 50.4968 13.72318862300602
AO-13
1 19216U 88 51 B 93170.38975377 -.00000228 00000-0 99999-4 0 6113
2 19216 58.0995 310.5489 7239097 317.3921   4.9538 2.09726486 38408
FO-20
1 20480U 90 13 C 93165.52276237 -.00000003 00000-0 21449-4 0 4482
2 20480 99.0347 22.2147 0541319 92.6971 273.6184 12.83220156156972
AO-21
1 21087U 91 6 A 93175.76460433 .00000084 00000-0 82656-4 0 7937
2 21087 82.9419 47.2256 0035790   3.0271 357.1071 13.74520653120481
RS-12/13
1 21089U 91 7 A 93166.81018164 .00000030 00000-0 25491-4 0 4073
2 21089 82.9213 283.1359 0030924 48.5313 311.8491 13.74023327118335
UO-14
1 20437U 90 5 B 93173.11221143 .00000072 00000-0 35855-4 0 7557
2 20437 98.6132 257.3298 0010711 164.8957 195.2550 14.29778019178138
AO-16
1 20439U 90 5 D 93173.11208496 .00000078 00000-0 38009-4 0 5609
2 20439 98.6201 258.2168 0011106 166.2248 193.9243 14.29837708178147
DO-17
1 20440U 90 5 E 93173.10107394 .00000079 00000-0 38352-4 0 5629
2 20440 98.6204 258.4183 0011308 164.5452 195.6074 14.29973586178150
WO-18
1 20441U 90 5 F 93172.72076532 .00000084 00000-0 40348-4 0 5642
2 20441 98.6203 258.0661 0011835 167.5050 192.6427 14.29953467178109
LO-19

```
1 20442U 90  5  G 93173.70191122  .00000082  00000-0  39417-4 0  5615
2 20442  98.6206 259.2147 0012176 163.4095 196.7487 14.30043293178254
UO-22
1 21575U 91 50  B 93172.70202778  .00000104  00000-0  42089-4 0  2603
2 21575  98.4723 248.7400 0007416 292.0351  68.0047 14.36833420101315
KO-23
1 22077U 92 52  B 93170.84137870  .00000000  00000-0  99999-4 0  1052
2 22077  66.0771 318.6262 0004589 184.8593 175.2383 12.86278854 40182
ARSENE
1 22654U 93 56  B 93145.00000000  .00000000  00000-0  00000-0 0  0086
2 22654   1.0950 130.8800 2939760 137.2680 355.5380  1.42273540   242
NOAA-9
1 15427U 84123  A 93173.03305597  .00000127  00000-0  77936-4 0  3925
2 15427  99.0982 213.2967 0015339 151.2103 208.9917 14.13525350439463
NOAA-10
1 16969U 86 73  A 93173.05554508  .00000112  00000-0  56413-4 0  2349
2 16969  98.5163 187.9228 0012419 305.5094  54.4931 14.24813314351326
MET-2/17
1 18820U 88  5  A 93168.11696357  .00000052  00000-0  41185-4 0  8725
2 18820  82.5426 198.9711 0017095 121.3029 238.9807 13.84686821271839
MET-3/2
1 19336U 88 64  A 93165.53291403  .00000044  00000-0  99999-4 0   447
2 19336  82.5410 223.8298 0018266  97.9094 262.4098 13.16958862234862
NOAA-11
1 19531U 88 89  A 93173.19719591  .00000074  00000-0  50311-4 0  1422
2 19531  99.1320 149.0897 0012922  65.6185 294.6339 14.12887846244386
MET-2/18
1 19851U 89 18  A 93176.10333338  .00000082  00000-0  68213-4 0  8106
2 19851  82.5198  68.6169 0013855 142.9932 217.2187 13.84338001218287
MET-3/3
1 20305U 89 86  A 93163.93432334  .00000042  00000-0  99999-4 0  7177
2 20305  82.5527 167.8696 0016588 124.9725 235.2957 13.16020736174545
MET-2/19
1 20670U 90 57  A 93175.99726086  .00000026  00000-0  18325-4 0  5625
2 20670  82.5460 132.1866 0017407  66.4284 293.8699 13.84176455151207
FY-1/2
1 20788U 90 81  A 93175.61332499 -.00000166  00000-0 -98778-4 0  5797
2 20788  98.8683 201.7218 0014620 287.8288  72.1282 14.01316488143620
MET-2/20
1 20826U 90 86  A 93175.62664085  .00000085  00000-0  72193-4 0  5673
2 20826  82.5254  70.4760 0014089 336.9160  23.1361 13.83552478138318
MET-3/4
1 21232U 91 30  A 93162.19405820  .00000043  00000-0  99999-4 0  3667
2 21232  82.5468  71.9805 0020030  45.4475 314.8286 13.16822428102539
NOAA-12
1 21263U 91 32  A 93173.02173389  .00000195  00000-0  96748-4 0  5949
2 21263  98.6564 203.0166 0012411 195.8537 164.2258 14.22275433109336
MET-3/5
```

```
1 21655U 91 56  A 93173.74664782  .00000043  00000-0  99999-4 0  4314
2 21655  82.5532  10.5903 0014424  18.2087 341.9549 13.16822083 89157
MIR
1 16609U 86 17  A 93174.65983290  .00003191  00000-0  44226-4 0  1493
2 16609  51.6173 186.9924 0005581 119.7389 240.4284 15.58480397420148
HUBBLE
1 20580U 90 37  B 93175.77751871  .00000582  00000-0  47844-4 0  1260
2 20580  28.4701  15.3437 0004860 127.0026 233.1050 14.92727022172659
GRO
1 21225U 91 27  B 93173.62675261  .00017837  00000-0  12345-3 0  9241
2 21225  28.4631 256.8516 0005167 331.4461  28.5863 15.72776477   973
TUBSAT
1 21577U 91 50  D 93176.09906137  .00000062  00000-0  27941-4 0  2604
2 21577  98.4726 251.6532 0005808 284.7686  75.2856 14.36381026101779
SARA
1 21578U 91 50  E 93172.20287385  .00000387  00000-0  14043-3 0  4320
2 21578  98.4770 249.4771 0004233 302.1821  57.8956 14.38451650101305
FREJA
1 22161U 92 64  A 93171.11784191  .00000100  00000-0  71061-4 0  1369
2 22161  63.0012 128.3425 0771331 283.0843  68.5136 13.21647445 33946
/EX
-------

------------------------------

Date: 25 Jun 93 12:14:16 CDT
From: usc!howland.reston.ans.net!ux1.cso.uiuc.edu!uchinews!raistlin!
timbuk.cray.com!hemlock.cray.com!cherry10!dadams@network.UCSD.EDU
Subject: Polarization
To: info-hams@ucsd.edu

I have 2 questions:

1.  Is the J pole a directional antenna?

2.  Do FM broadcasters (in the broadcast band) usually use vertical polarization?
    Would this imply that if I use a dipole antenna that I should string it up
    and down instead of horizontally?


---
David, N0WWN

--David C. Adams  Statistician  Cray Research Inc.  dadams@cray.com
     -Sourdough and Ham-              - Minnesotans for Global Warming! -
     (&gardner)

------------------------------
```

Date: 25 Jun 1993 19:09:02 GMT
From: nothing.ucsd.edu!brian@network.UCSD.EDU
Subject: rec.radio email lists
To: info-hams@ucsd.edu

There are at this moment no mailing lists corresponding to the new ham
radio groups.
     - Brian

Date: Fri, 25 Jun 1993 17:38:14 GMT
From: usc!howland.reston.ans.net!torn!nott!bnrgate!corpgate!nrtpa038!brtph560!
node_17aa4!kme@network.UCSD.EDU
Subject: STS-57 Update/President's Crew Conference
To: info-hams@ucsd.edu

In article <C93sDy.3wx@iat.holonet.net>, bwilkins@iat.holonet.net (Bob Wilkins
n6fri) writes:
|> faunt@netcom.COM (Doug Faunt N6TQS 510-655-8604) writes:
|> : Interestingly enough, the Oakland (CA) Tribune had an article focusing
|> : on how dissapointed the kids at one local school were, because they
|> : got bumped, apparently, by the President's phone call. The article
|> : barely mentioned that the kids were going to use ham radio.
|> : 73, doug
|> : <faunt@netcom.com>
|>
|> The STS-57 shuttle contact was repeated on several local frequencies. We
|> could hear the tele-conference discussions taking place. The two students
|> that communicated with the shuttle were able to do so through a gateway
|> station in Hawaii. The shuttle antenna was in the south facing window.
|> When the southern California gateway station tried to communicate with the
|> shuttle, it was clearly doomed as the shuttle antenna was on the wrong
|> side of the craft. It is hoped that further communications will take place
|> Saturday. Good luck on Field Day!
|>
|>
|> --
|> Bob Wilkins   n6fri   voice 440.250+ 100pl san francisco bay area
|> bwilkins@holonet.net   packet n6fri @ n6eeg.#nocal.ca.usa.na
|>

I was project co-ordinator with SAREX for STS-47 here in Wake County, NC. I know
the excitment and hard work involved in preparing for a SAREX contact. My
question is simply, did the president preempt the scheduled contact for the above
mentioned school, irreguardless of the potiential for success ? I did not see any
mention of any students 'sharing' in the tele-conferencing, what exactly happened

there ?

--
==

Ken M. Edwards, PE Bell Northern Research, Research Triangle Park, NC
(919) 481-8476 email: cnc23a@bnr.ca   Ham: N4ZBB

Let this be the day...
  when you stop just thinking about your dreams,
  and you start doing something to make them happen!
Let this be the day...
  you give your best,
  believe that you can make a difference in the world,
  because it's true!
Let this be the day...
  when you can honestly say
  you've lived life to the fullest.
                                        Linda Lee Elrod

Date: 25 Jun 1993 22:40:12 GMT
From: sdd.hp.com!caen!usenet.coe.montana.edu!netnews.nwnet.net!news.uoregon.edu!
systems%ns.uoregon.edu@network.UCSD.EDU
Subject: TS-700S Question
To: info-hams@ucsd.edu

I have just gotten the usage of a ts-700 for an indefinite amount of
time...It has the external VFO but not the plug to put in the VFO socket
when the external VFO is not being used. I went thru the schematic and
service manual but was unable to find a diagram for the plug wiring.
Anyone out there have one they could check out and e-mail me the wiring
scheme for the plug?
Thanks in advance!

--
Jeff Hite KF7SZ
Computing Center
U of Oregon
jeffh@ludwig.cc.uoregon.edu

Date: 25 Jun 93 16:58:36 GMT
From: att-out!cbnewsj!k2ph@RUTGERS.EDU
Subject: TV vs Cable. Why Pay for a FREE Signal
To: info-hams@ucsd.edu

Date: (null)
From: (null)
Dissipation factor:

	1 MHz	100 MHz	3 GHz
Aluminum Oxide (ceramic)	.00033	.00030	.0010
Iron-sealing glass	.0005	.0009	.00199
Polystyrene	.00007	<.0001	.00033
Polycarbonate	.010	-	-
Polypropylene	<.0005	-	-
Nylon	.0218	.0200	.0117
Teflon	<.0002	<.0002	.00015
Epoxy resin (Araldite CN-501)	.019	.034	.027
Bakelite B M 120	.0280	.0380	.0438
Butyl rubber	.0010	.0010	.0009
Neoprene rubber	.038	.090	.034
Douglas fir	.026	.033	.027
Ruby mica	.0003	.0002	.0003
Soil, loamy dry	.018	-	.0011
100% Polyvinyl-chloride (PVC)	.0160	.0081	.0055

What is the significance of dissipation factor? It is the ratio of energy lost to energy stored in a material. If you make a capacitor insulator out of a material, the unloaded Q will be the reciprocal of the material's dissipation factor (ignoring conductor losses).

Bottom line: Many plastics (including PVC) and other materials are quite lossy at RF frequencies. The best inexpensive, commonly-available material for coil forms, cavity resonators, etc. is polystyrene, or possibly polypropylene. Unfortunately, both of these plastics melt at high temperatures and are sensitive to sunlight, so a good-quality but higher-cost alternative is Teflon.

Glass is good also, if the brittleness is not a problem.

One interesting note: Most PC boards are made up mostly of epoxy resin, with fiberglass for strength. Because of the epoxy, PC boards are quite lossy at RF.

AL N1AL

Date: (null)
From: (null)
Indeed. Can this please be taken to rec.video.cable-tv?

--

Bob Schreibmaier K2PH | UUCP: ...!att!mtdcr!bob
AT&T Bell Laboratories | Internet: bob@mtdcr.att.com
Middletown, N.J. 07748 | ICBM: 40o21'N, 74o8'W

End of Info-Hams Digest V93 #781
****